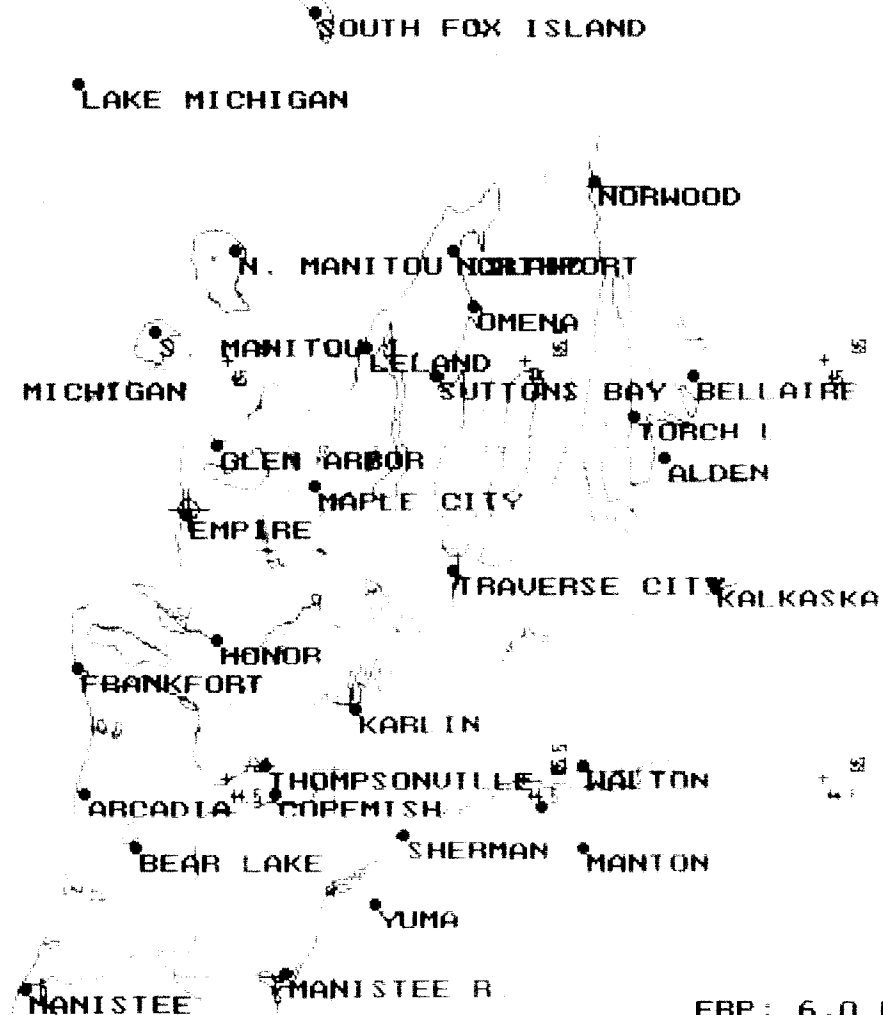


# EXHIBIT 14



ALTERNATIVE  
CHANNEL  
PROPOSAL  
227A EMPIRE, MI

Coordinates:  
N 44-49-28  
W 86-03-53

Kilometer Scale  
0 10 20 30 40 50 60

ERP: 6.0 kW  
Meters AMSL: 310

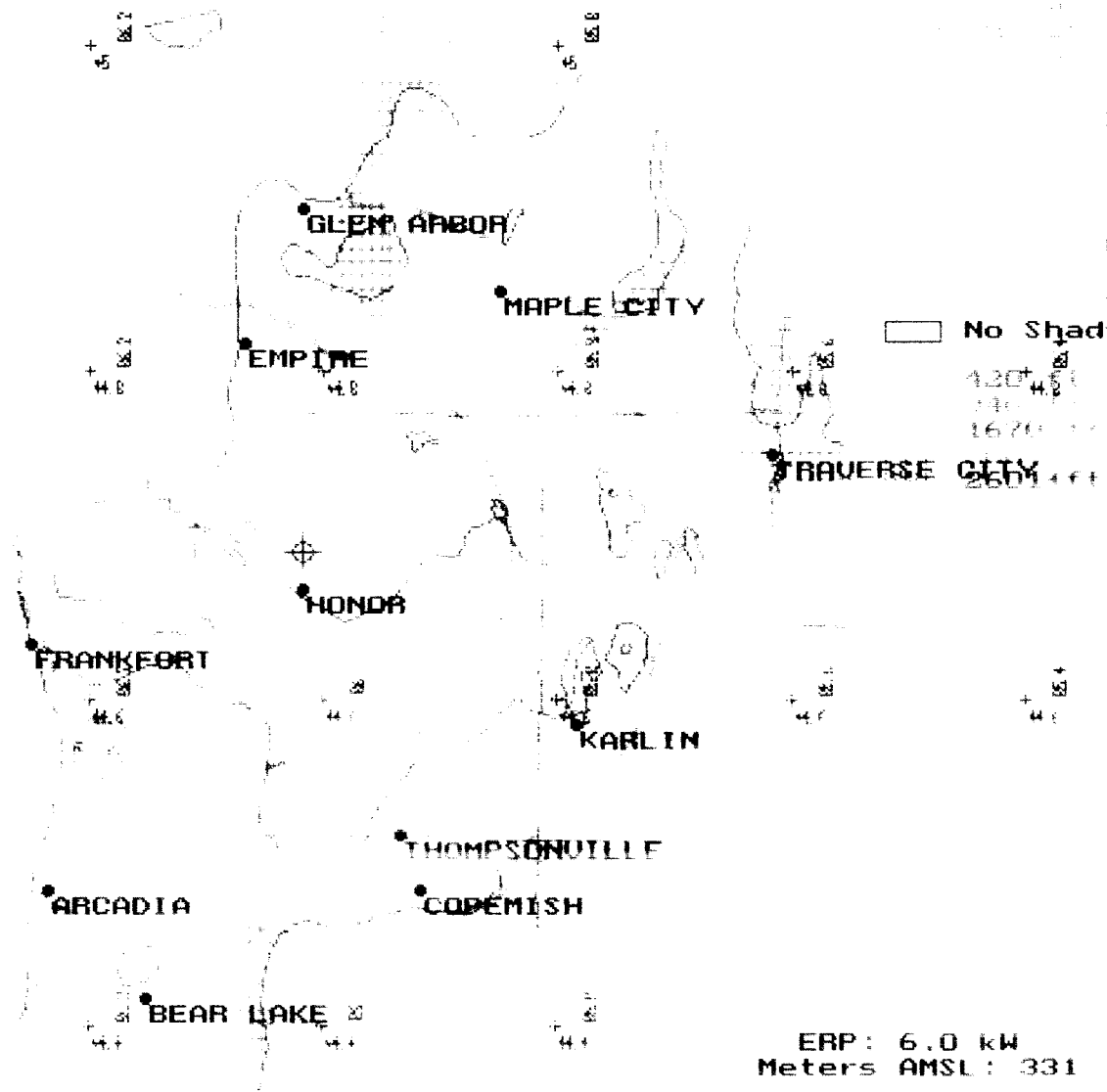
Map Scale  
1:1000000

# EXHIBIT 15

## TERRAIN SHADOW STUDY HONOR, MI

Coordinates:  
N 44-41-26  
W 86-01-05

Kilometer Scale  
0 5 10 15 20 25 30



Map Scale  
1: 500000

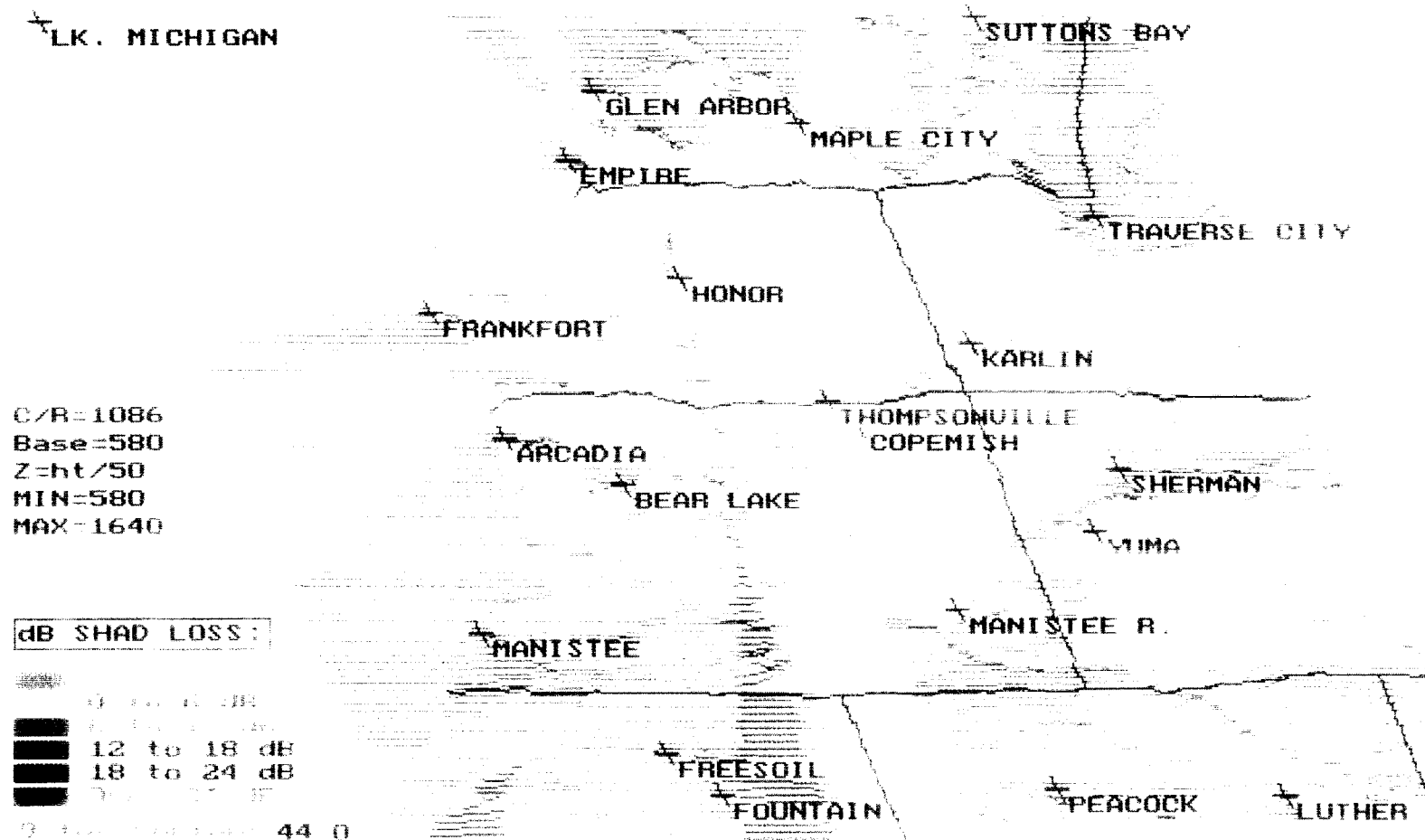
86 30

N. 44 41 26  
W. 86 01 05

85 30

# EXHIBIT 16

45 0



# APPENDIX A

MAPFM search of channels 221A6 to 300A6, at N. 44 41 26, W. 86 1 5:

Channel 221A6	short by 105.5 kilometers,	or 65.5 miles.
Channel 222A6	short by 62.5 kilometers,	or 38.8 miles.
Channel 223A6	short by 63.5 kilometers,	or 39.4 miles.
Channel 224A6	short by 83.2 kilometers,	or 51.7 miles.
Channel 225A6	short by 144.2 kilometers,	or 89.6 miles.
Channel 226A6	short by 83.2 kilometers,	or 51.7 miles.
Channel 227A6	short by 15.1 kilometers,	or 9.4 miles.
Channel 228A6	short by 15.1 kilometers,	or 46.7 miles.
Channel 229A6	short by 23.3 kilometers,	or 14.5 miles.
Channel 230A6	short by 90.3 kilometers,	or 56.1 miles.
Channel 231A6	short by 68.7 kilometers,	or 42.7 miles.
Channel 232A6	short by 121.7 kilometers,	or 75.6 miles.
Channel 233A6	short by 68.7 kilometers,	or 42.7 miles.
Channel 234A6	short by 45.2 kilometers,	or 34.3 miles.
Channel 235A6	short by 66.9 kilometers,	or 41.5 miles.
Channel 236A6	short by 64.0 kilometers,	or 39.8 miles.
Channel 237A6	short by 83.8 kilometers,	or 52.0 miles.
Channel 238A6	short by 143.8 kilometers,	or 89.3 miles.
Channel 239A6	short by 83.8 kilometers,	or 52.0 miles.
Channel 240A6	short by 82.8 kilometers,	or 57.6 miles.
Channel 241A6	short by 49.8 kilometers,	or 30.9 miles.
Channel 242A6	short by 85.9 kilometers,	or 53.4 miles.
Channel 243A6	short by 38.7 kilometers,	or 24.0 miles.
Channel 244A6	short by 61.7 kilometers,	or 57.0 miles.
Channel 245A6	short by 38.7 kilometers,	or 24.0 miles.
Channel 246A6	short by 49.8 kilometers,	or 30.9 miles.
Channel 247A6	short by 43.3 kilometers,	or 26.9 miles.
Channel 248A6	short by 103.3 kilometers,	or 64.2 miles.
Channel 249A6	short by 49.1 kilometers,	or 36.7 miles.
Channel 250A6	short by 44.4 kilometers,	or 46.2 miles.
Channel 251A6	short by 127.4 kilometers,	or 79.2 miles.
Channel 252A6	short by 44.4 kilometers,	or 46.2 miles.
Channel 253A6	short by 49.1 kilometers,	or 55.3 miles.
Channel 254A6	short by 40.6 kilometers,	or 25.2 miles.
Channel 255A6	short by 78.7 kilometers,	or 48.9 miles.
Channel 256A6	short by 91.6 kilometers,	or 56.9 miles.
Channel 257A6	short by 161.6 kilometers,	or 94.2 miles.
Channel 258A6	short by 91.6 kilometers,	or 56.9 miles.
Channel 259A6	short by 66.3 kilometers,	or 35.0 miles.
Channel 260A6	short by 41.0 kilometers,	or 25.5 miles.
Channel 261A6	short by 84.0 kilometers,	or 52.2 miles.
Channel 262A6	short by 94.0 kilometers,	or 58.4 miles.
Channel 263A6	short by 72.0 kilometers,	or 44.7 miles.
Channel 264A6	short by 115.0 kilometers,	or 71.4 miles.
Channel 265A6	short by 72.0 kilometers,	or 44.7 miles.
Channel 266A6	short by 65.3 kilometers,	or 40.6 miles.
Channel 267A6	short by 47.9 kilometers,	or 29.8 miles.
Channel 268A6	short by 60.1 kilometers,	or 37.4 miles.
Channel 269A6	short by 105.9 kilometers,	or 65.8 miles.
Channel 270A6	short by 172.9 kilometers,	or 107.4 miles.
Channel 271A6	short by 105.9 kilometers,	or 65.8 miles.
Channel 272A6	short by 47.9 kilometers,	or 29.8 miles.
Channel 273A6	short by 47.9 kilometers,	or 29.8 miles.
Channel 274A6	short by 45.8 kilometers,	or 28.5 miles.
Channel 275A6	short by 106.8 kilometers,	or 66.4 miles.

Channel 276A6	short by	58.9 kilometers,	or	36.6 miles.
Channel 277A6	short by	128.9 kilometers,	or	80.1 miles.
Channel 278A6	short by	189.9 kilometers,	or	118.0 miles.
Channel 279A6	short by	128.9 kilometers,	or	80.1 miles.
Channel 280A6	short by	58.9 kilometers,	or	36.6 miles.
Channel 281A6	short by	58.9 kilometers,	or	36.6 miles.
Channel 282A6	short by	47.0 kilometers,	or	29.2 miles.
Channel 283A6	short by	90.0 kilometers,	or	55.9 miles.
Channel 284A6	short by	57.2 kilometers,	or	35.5 miles.
Channel 285A6	short by	39.4 kilometers,	or	24.5 miles.
Channel 286A6	short by	52.2 kilometers,	or	32.4 miles.
Channel 287A6	short by	111.9 kilometers,	or	69.5 miles.
Channel 288A6	short by	50.9 kilometers,	or	31.6 miles.
Channel 289A6	short by	65.3 kilometers,	or	40.6 miles.
Channel 290A6	short by	109.1 kilometers,	or	67.8 miles.
Channel 291A6	short by	42.1 kilometers,	or	26.2 miles.
Channel 292A6	short by	37.8 kilometers,	or	23.5 miles.
Channel 293A6	short by	32.3 kilometers,	or	20.1 miles.
Channel 294A6	short by	99.3 kilometers,	or	61.7 miles.
Channel 295A6	short by	32.3 kilometers,	or	20.1 miles.
Channel 296A6	short by	35.9 kilometers,	or	22.3 miles.
Channel 297A6	short by	78.7 kilometers,	or	48.9 miles.
Channel 298A6	short by	138.7 kilometers,	or	86.2 miles.
Channel 299A6	short by	78.7 kilometers,	or	48.9 miles.
Channel 300A6	short by	27.7 kilometers,	or	17.2 miles.

## APPENDIX B

MAPFM search of channels 221A6 to 300A6, at N. 44 25 18, W. 86 7 17:

Channel 221A6	short by 104.6 kilometers,	or 65.0 miles.
Channel 222A6	short by 61.6 kilometers,	or 38.3 miles.
Channel 223A6	short by 45.1 kilometers,	or 28.0 miles.
Channel 224A6	short by 95.2 kilometers,	or 59.2 miles.
Channel 225A6	short by 156.2 kilometers,	or 97.1 miles.
Channel 226A6	short by 95.2 kilometers,	or 59.2 miles.
Channel 227A6	short by 25.2 kilometers,	or 15.7 miles.
Channel 228A6	short by 49.1 kilometers,	or 30.5 miles.
Channel 229A6	short by 20.2 kilometers,	or 12.6 miles.
Channel 230A6	short by 87.2 kilometers,	or 54.2 miles.
Channel 231A6	short by 77.7 kilometers,	or 48.3 miles.
Channel 232A6	short by 90.7 kilometers,	or 56.4 miles.
Channel 233A6	short by 56.3 kilometers,	or 35.0 miles.
Channel 234A6	short by 44.1 kilometers,	or 27.4 miles.
Channel 235A6	short by 97.1 kilometers,	or 60.3 miles.
Channel 236A6	short by 59.0 kilometers,	or 36.7 miles.
Channel 237A6	short by 53.0 kilometers,	or 33.0 miles.
Channel 238A6	short by 103.0 kilometers,	or 70.2 miles.
Channel 239A6	short by 53.0 kilometers,	or 33.0 miles.
Channel 240A6	short by 62.0 kilometers,	or 38.5 miles.
Channel 241A6	short by 19.0 kilometers,	or 11.8 miles.
Channel 242A6	short by 59.7 kilometers,	or 37.1 miles.
Channel 243A6	short by 45.9 kilometers,	or 28.5 miles.
Channel 244A6	short by 98.9 kilometers,	or 61.5 miles.
Channel 245A6	short by 45.9 kilometers,	or 28.5 miles.
Channel 246A6	short by 14.9 kilometers,	or 15.5 miles.
Channel 247A6	short by 15.8 kilometers,	or 22.2 miles.
Channel 248A6	short by 44.8 kilometers,	or 52.7 miles.
Channel 249A6	short by 49.0 kilometers,	or 55.3 miles.
Channel 250A6	short by 46.0 kilometers,	or 28.6 miles.
Channel 251A6	short by 46.5 kilometers,	or 60.0 miles.
Channel 252A6	short by 43.5 kilometers,	or 27.0 miles.
Channel 253A6	short by 49.0 kilometers,	or 55.3 miles.
Channel 254A6	short by 13.8 kilometers,	or 21.0 miles.
Channel 255A6	short by 60.7 kilometers,	or 31.5 miles.
Channel 256A6	short by 84.8 kilometers,	or 52.7 miles.
Channel 257A6	short by 144.8 kilometers,	or 90.0 miles.
Channel 258A6	short by 84.8 kilometers,	or 52.7 miles.
Channel 259A6	short by 64.4 kilometers,	or 40.0 miles.
Channel 260A6	short by 72.0 kilometers,	or 44.7 miles.
Channel 261A6	short by 115.0 kilometers,	or 71.4 miles.
Channel 262A6	short by 35.1 kilometers,	or 52.9 miles.
Channel 263A6	short by 41.0 kilometers,	or 25.5 miles.
Channel 264A6	short by 34.0 kilometers,	or 52.2 miles.
Channel 265A6	short by 41.0 kilometers,	or 25.5 miles.
Channel 266A6	short by 76.3 kilometers,	or 47.4 miles.
Channel 267A6	short by 46.9 kilometers,	or 29.2 miles.
Channel 268A6	short by 39.9 kilometers,	or 55.9 miles.
Channel 269A6	short by 31.6 kilometers,	or 50.7 miles.
Channel 270A6	short by 148.6 kilometers,	or 92.3 miles.
Channel 271A6	short by 31.6 kilometers,	or 50.7 miles.
Channel 272A6	short by 54.1 kilometers,	or 33.6 miles.
Channel 273A6	short by 23.6 kilometers,	or 14.6 miles.
Channel 274A6	short by 17.2 kilometers,	or 10.7 miles.
Channel 275A6	short by 78.2 kilometers,	or 48.6 miles.

Channel 276A6	short by	61.2 kilometers,	or	38.1 miles.
Channel 277A6	short by	131.2 kilometers,	or	81.5 miles.
Channel 278A6	short by	192.2 kilometers,	or	119.4 miles.
Channel 279A6	short by	131.2 kilometers,	or	81.5 miles.
Channel 280A6	short by	61.2 kilometers,	or	38.1 miles.
Channel 281A6	short by	61.2 kilometers,	or	38.1 miles.
Channel 282A6	short by	25.0 kilometers,	or	15.6 miles.
Channel 283A6	short by	68.0 kilometers,	or	42.3 miles.
Channel 284A6	short by	35.9 kilometers,	or	22.3 miles.
Channel 285A6	short by	41.8 kilometers,	or	26.0 miles.
Channel 286A6	short by	81.6 kilometers,	or	50.7 miles.
Channel 287A6	short by	142.6 kilometers,	or	88.6 miles.
Channel 288A6	short by	81.6 kilometers,	or	50.7 miles.
Channel 289A6	short by	77.3 kilometers,	or	48.0 miles.
Channel 290A6	short by	83.0 kilometers,	or	51.6 miles.
Channel 291A6	short by	25.2 kilometers,	or	15.6 miles.
Channel 292A6	short by	68.2 kilometers,	or	42.4 miles.
Channel 293A6	short by	25.2 kilometers,	or	15.6 miles.
Channel 294A6	short by	77.5 kilometers,	or	48.1 miles.
Channel 295A6	short by	45.5 kilometers,	or	28.3 miles.
Channel 296A6	short by	46.6 kilometers,	or	28.9 miles.
Channel 297A6	short by	54.6 kilometers,	or	33.9 miles.
Channel 298A6	short by	114.6 kilometers,	or	71.2 miles.
Channel 299A6	short by	54.6 kilometers,	or	33.9 miles.
Channel 300A6	short by	17.5 kilometers,	or	10.9 miles.

# APPENDIX C

MAPFM search of channels 221A6 to 300A6, at N. 44 30 54, W. 86 6 52:

Channel 221A6	short by	115.0 kilometers,	or	71.4 miles.
Channel 222A6	short by	72.0 kilometers,	or	44.7 miles.
Channel 223A6	short by	49.8 kilometers,	or	30.9 miles.
Channel 224A6	short by	90.4 kilometers,	or	56.2 miles.
Channel 225A6	short by	151.4 kilometers,	or	94.1 miles.
Channel 226A6	short by	90.4 kilometers,	or	56.2 miles.
Channel 227A6	short by	20.4 kilometers,	or	12.7 miles.
Channel 228A6	short by	56.7 kilometers,	or	35.2 miles.
Channel 229A6	short by	24.4 kilometers,	or	15.1 miles.
Channel 230A6	short by	91.4 kilometers,	or	56.8 miles.
Channel 231A6	short by	67.5 kilometers,	or	41.9 miles.
Channel 232A6	short by	100.7 kilometers,	or	62.6 miles.
Channel 233A6	short by	50.7 kilometers,	or	31.5 miles.
Channel 234A6	short by	36.0 kilometers,	or	22.4 miles.
Channel 235A6	short by	87.8 kilometers,	or	54.5 miles.
Channel 236A6	short by	63.5 kilometers,	or	39.5 miles.
Channel 237A6	short by	63.3 kilometers,	or	39.3 miles.
Channel 238A6	short by	123.3 kilometers,	or	76.6 miles.
Channel 239A6	short by	63.3 kilometers,	or	39.3 miles.
Channel 240A6	short by	72.3 kilometers,	or	44.9 miles.
Channel 241A6	short by	29.3 kilometers,	or	18.2 miles.
Channel 242A6	short by	67.4 kilometers,	or	41.8 miles.
Channel 243A6	short by	43.1 kilometers,	or	26.8 miles.
Channel 244A6	short by	96.1 kilometers,	or	59.7 miles.
Channel 245A6	short by	43.1 kilometers,	or	26.8 miles.
Channel 246A6	short by	34.5 kilometers,	or	21.5 miles.
Channel 247A6	short by	30.1 kilometers,	or	18.7 miles.
Channel 248A6	short by	90.1 kilometers,	or	56.0 miles.
Channel 249A6	short by	79.9 kilometers,	or	49.7 miles.
Channel 250A6	short by	63.7 kilometers,	or	33.4 miles.
Channel 251A6	short by	106.7 kilometers,	or	66.3 miles.
Channel 252A6	short by	63.7 kilometers,	or	33.4 miles.
Channel 253A6	short by	87.8 kilometers,	or	54.5 miles.
Channel 254A6	short by	43.8 kilometers,	or	27.2 miles.
Channel 255A6	short by	69.1 kilometers,	or	36.7 miles.
Channel 256A6	short by	94.8 kilometers,	or	58.9 miles.
Channel 257A6	short by	154.8 kilometers,	or	96.2 miles.
Channel 258A6	short by	94.8 kilometers,	or	58.9 miles.
Channel 259A6	short by	68.3 kilometers,	or	36.2 miles.
Channel 260A6	short by	61.6 kilometers,	or	38.3 miles.
Channel 261A6	short by	104.6 kilometers,	or	65.0 miles.
Channel 262A6	short by	86.8 kilometers,	or	53.9 miles.
Channel 263A6	short by	61.0 kilometers,	or	31.7 miles.
Channel 264A6	short by	94.0 kilometers,	or	58.4 miles.
Channel 265A6	short by	61.0 kilometers,	or	31.7 miles.
Channel 266A6	short by	75.4 kilometers,	or	46.8 miles.
Channel 267A6	short by	38.0 kilometers,	or	23.6 miles.
Channel 268A6	short by	81.0 kilometers,	or	50.3 miles.
Channel 269A6	short by	89.3 kilometers,	or	55.5 miles.
Channel 270A6	short by	156.3 kilometers,	or	97.1 miles.
Channel 271A6	short by	89.3 kilometers,	or	55.5 miles.
Channel 272A6	short by	45.0 kilometers,	or	28.0 miles.
Channel 273A6	short by	31.3 kilometers,	or	19.4 miles.
Channel 274A6	short by	25.9 kilometers,	or	16.1 miles.
Channel 275A6	short by	86.9 kilometers,	or	54.0 miles.



Channel 276A6 short by 61.5 kilometers, or 38.2 miles.  
Channel 277A6 short by 131.5 kilometers, or 81.7 miles.  
Channel 278A6 short by 192.5 kilometers, or 119.6 miles.  
Channel 279A6 short by 131.5 kilometers, or 81.7 miles.  
Channel 280A6 short by 61.5 kilometers, or 38.2 miles.  
Channel 281A6 short by 61.5 kilometers, or 38.2 miles.  
Channel 282A6 short by 32.2 kilometers, or 20.0 miles.  
Channel 283A6 short by 75.2 kilometers, or 46.7 miles.  
Channel 284A6 short by 44.7 kilometers, or 27.8 miles.  
Channel 285A6 short by 40.2 kilometers, or 25.0 miles.  
Channel 286A6 short by 71.3 kilometers, or 44.3 miles.  
Channel 287A6 short by 132.3 kilometers, or 82.2 miles.  
Channel 288A6 short by 71.3 kilometers, or 44.3 miles.  
Channel 289A6 short by 76.0 kilometers, or 47.2 miles.  
Channel 290A6 short by 90.7 kilometers, or 56.4 miles.  
Channel 291A6 short by 23.7 kilometers, or 14.7 miles.  
Channel 292A6 short by 58.7 kilometers, or 36.5 miles.  
Channel 293A6 short by 16.6 kilometers, or 10.3 miles.  
Channel 294A6 short by 83.6 kilometers, or 51.9 miles.  
Channel 295A6 short by 35.2 kilometers, or 21.9 miles.  
Channel 296A6 short by 42.3 kilometers, or 26.3 miles.  
Channel 297A6 short by 62.2 kilometers, or 38.7 miles.  
Channel 298A6 short by 122.2 kilometers, or 75.9 miles.  
Channel 299A6 short by 62.2 kilometers, or 38.7 miles.  
Channel 300A6 short by 11.2 kilometers, or 7.0 miles.